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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,564	07/10/2003	Jay P. Gore	3220-73090	2789

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BARNES & THORNBURG LLP
11 SOUTH MERIDIAN
INDIANAPOLIS, IN 46204

EXAMINER

BOOSALIS, FANI POLYZOS

ART UNIT	PAPER NUMBER
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2884

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/616,564

Applicant(s)

GORE ET AL.

Examiner

Faye Boosalis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27 is/are allowed.
- 6) ☒ Claim(s) 1,3-7 and 9-26 is/are rejected.
- 7) ☒ Claim(s) 2 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant's arguments, see pages 10-13, filed 21 September 2006, with respect to the rejection(s) of claim(s) 1-2, 22 and 26 under 35 U.S.C. 102(e) and claim(s) 3-16, under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of *Ditmarsen et al (US 6,236,048 B1)*.

Claim Objections

3. Claims 1, 7 and 12 are objected to because of the following informalities:
Spelling error step (a) of claim "though" should read "through". Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are directed to a judicial exception; as such, pursuant to the Interim Guidelines on Patent Eligible Subject Matter (MPEP 2106), the claims must have either physical transformation and/or a useful, concrete and tangible result. The claims fail to include transformation from one physical state to another. Although, the claims appear

useful and concrete, there does not appear to be a tangible result claimed. Merely processing electrical signals with a quantification algorithm so as to provide a measurement of the amount of the organic substance contained within the food product would not appear to be sufficient to constitute a tangible result, since the outcome of the processing step has not been used in a disclosed practical application nor made available in such a manner that its usefulness in a disclosed practical application can be realized. As such, the subject matter of the claims is not patent eligible.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1,7,12 are rejected under 35 U.S.C. 102(b) as being anticipated by *Ditmarsen et al (US 6,236,048 B1)*.

Regarding claims 1, 7, 12, Ditmarsen discloses a method for investigating flowable material comprising: method for measuring an amount of an organic substance (i.e. vegetable seed oil, milk fat) contained in a food product (col. 3, lines 16-24), the organic substance having an infrared absorption spectrum which includes a set (n) of infrared absorption bands (col. 5, lines 66-67 and col. 6, lines 1-5), the method comprising: (a) passing infrared electromagnetic radiation through the food product containing the organic substance (col. 4, lines 54-59); (b) detecting the intensity of infrared electromagnetic radiation passing through the food product containing the

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organic substance in ranges of wavelengths corresponding to each of a subset of the (n) infrared absorption bands to provide electrical signals corresponding thereto (col. 4, lines 60-67 and col. 5, lines 10-39); (c) processing (6a) the electrical signals with a quantification algorithm so as to provide a measurement of the amount of the organic substance contained within the food product (col. 10, lines 8-15).

Regarding claim 11, Ditmarsen discloses wherein the food product includes edible oils (col. 3, lines 26-35).

Regarding claim 16, Ditmarsen discloses wherein the food product includes milk (col. 3, line 36).

Regarding claim 26, Ditmarsen discloses an apparatus for measuring an amount of an organic substance (i.e. vegetable seed oil, milk fat) contained in a food product (col. 3, lines 16-24), the organic substance having an infrared absorption spectrum which includes a set (n) of infrared absorption bands (col. 5, lines 66-67 and col. 6, lines 1-5), the apparatus comprising: (a) a detector (36) operable to detect the intensity of infrared electromagnetic radiation passing through the food product containing the organic substance in a range of wavelengths corresponding to one of the infrared absorption bands to provide electrical signals corresponding thereto (col. 4, lines 54-67 and col. 5, lines 10-39); and (b) a processor (6a) operable to process electrical signals with a quantification algorithm so as to provide a measurement of the amount of organic substance contained within the food product (col. 10, lines 8-15).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ditmarsen et al (US 6,236,048 B1)* as applied to claim 1 above, and further in view of *Passaloglou-Emmanouillidou ("A comparative study of UV spectrophotometric methods for detection of olive oil adulteration by refined oils", Vol. 191)*.

Regarding claims 3 and 5, *Ditmarsen* discloses a method for investigating flowable material comprising: method for measuring an amount of an organic substance (i.e. vegetable seed oil, milk fat) contained in a food product (col. 3, lines 16-24), the organic substance having an infrared absorption spectrum which includes a set (n) of infrared absorption bands (col. 5, lines 66-67 and col. 6, lines 1-5), the method comprising: (a) passing infrared electromagnetic radiation through the food product containing the organic substance (col. 4, lines 54-59); (b) detecting the intensity of infrared electromagnetic radiation passing through the food product containing the organic substance in ranges of wavelengths corresponding to each of a subset of the (n) infrared absorption bands to provide electrical signals corresponding thereto (col. 4, lines 60-67 and col. 5, lines 10-39); (c) processing (6a) the electrical signals with a quantification algorithm so as to provide a measurement of the amount of the organic substance contained within the food product (col. 10, lines 8-15). *Ditmarsen* does not

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disclose of detecting the transmittance of about 905 – 930 cm^{-1} wavelength band of infrared electromagnetic radiation being about 880 – 890 cm^{-1} wavelength band of infrared electromagnetic radiation. *Passaloglou-Emmanouillidou* discloses detecting the intensity of about a 905 – 930 cm^{-1} wavelength band of infrared electromagnetic radiation being about 880 – 890 cm^{-1} wavelength band of infrared electromagnetic radiation (See Generally Figs. 1A,B). Since the transmittance in this wavelength band is effective for the determination of an organic substance such as; olive oil, as described by *Passaloglou-Emmanouillidou*, it would have been obvious to one skilled in the art to modify the method suggested by Clarke to comprise of the wavelength band as disclosed supra by *Passaloglou-Emmanouillidou* to allow for a more versatile apparatus.

Regarding claims 4 and 6, *Passaloglou-Emmanouillidou* discloses detecting the intensity of about a 2905 – 2945 cm^{-1} wavelength band of infrared electromagnetic radiation being about 2840 – 2870 cm^{-1} wavelength band of infrared electromagnetic radiation (See Generally Fig. 1). Since the transmittance in this wavelength band is effective for the determination of an organic substance such as; olive oil, as described by *Passaloglou-Emmanouillidou*, it would have been obvious to one skilled in the art to modify the method suggested by Clarke to comprise of the wavelength band as disclosed supra by *Passaloglou-Emmanouillidou* to allow for a more versatile apparatus.

10. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ditmarsen et al* (US 6,236,048 B1) as applied to claim 7 above, and further in view of *Passaloglou-Emmanouillidou* ("A comparative study of UV spectrophotometric methods for detection of olive oil adulteration by refined oils", Vol. 191).

Regarding claims 9-10, Ditmarsen discloses a method for investigating flowable material comprising: method for measuring an amount of an organic substance (i.e. vegetable seed oil, milk fat) contained in a food product (col. 3, lines 16-24), the organic substance having an infrared absorption spectrum which includes a set (n) of infrared absorption bands (col. 5, lines 66-67 and col. 6, lines 1-5), the method comprising: (a) passing infrared electromagnetic radiation through the food product containing the organic substance (col. 4, lines 54-59); (b) detecting the intensity of infrared electromagnetic radiation passing through the food product containing the organic substance in ranges of wavelengths corresponding to each of a subset of the (n) infrared absorption bands to provide electrical signals corresponding thereto (col. 4, lines 60-67 and col. 5, lines 10-39); (c) processing (6a) the electrical signals with a quantification algorithm so as to provide a measurement of the amount of the organic substance contained within the food product (col. 10, lines 8-15). Ditmarsen does not disclose detecting the transmittance of about $905 - 930 \text{ cm}^{-1}$ wavelength band of infrared electromagnetic radiation being about $880 - 890 \text{ cm}^{-1}$ wavelength band of infrared electromagnetic radiation. *Passaloglou-Emmanouillidou* discloses detecting the intensity of about a $905 - 930 \text{ cm}^{-1}$ wavelength band of infrared electromagnetic radiation being about $880 - 890 \text{ cm}^{-1}$ wavelength band of infrared electromagnetic radiation and selecting infrared wavelength bands within a range of about $800-1000 \text{ cm}^{-1}$ (See Generally Figs. 1A,B). Since the transmittance in this wavelength band is effective for the determination of an organic substance such as; olive oil, as described by *Passaloglou-Emmanouillidou*, it would have been obvious to one skilled in the art to

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modify the method suggested by Clarke to comprise of the wavelength band as disclosed supra by *Passaloglou-Emmanouillidou* to allow for a more versatile apparatus.

Allowable Subject Matter

1. Claim 27 is allowed.
2. The following is an examiner's statement of reasons for allowance:

Regarding independent claim 27, the prior art does not disclose or fairly suggest an apparatus for measuring an amount of an organic substance within a food product, the organic substance having an infrared absorption spectrum which includes a set (n) of infrared absorption bands and one or more reference wavelength bands, wherein the organic substance does not substantially absorb electromagnetic radiation in the one or more reference wavelength band, the apparatus comprising (a) detector to detect the intensity of infrared electromagnetic radiation influenced by the organic substance in ranges of wavelengths corresponding to each of a subset of the one or more reference wavelength bands.

The examiner notes that while it is known in the art an apparatus for measuring an amount of an organic substance (i.e. vegetable seed oil, milk fat) contained in a food product (col. 3, lines 16-24), the organic substance having an infrared absorption spectrum which includes a set (n) of infrared absorption bands (col. 5, lines 66-67 and col. 6, lines 1-5), the method comprising: (a) passing infrared electromagnetic radiation through the food product containing the organic substance (col. 4, lines 54-59); (b) detecting the intensity of infrared electromagnetic radiation passing through the food product containing the organic substance in ranges of wavelengths corresponding to

each of a subset of the (n) infrared absorption bands to provide electrical signals corresponding thereto (col. 4, lines 60-67 and col. 5, lines 10-39); (c) processing (6a) the electrical signals with a quantification algorithm so as to provide a measurement of the amount of the organic substance contained within the food product (col. 10, lines 8-15), the prior art does not suggest one or more reference wavelength bands wherein the organic substance does not absorb.

11. Claims 2 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding dependent claims 2 and 8 the prior art does not disclose or fairly suggest a method of measuring an amount of an organic substance contained within a food product, the organic substance having an infrared absorption spectrum which includes a set (n) of infrared absorption bands, the method comprising a quantification algorithm dividing a first wavelength band integrated absorbance (i.e. $905 - 930 \text{ cm}^{-1}$) by a reference wavelength band integrated absorbance value (i.e. $880-930 \text{ cm}^{-1}$) in which organic substance does not substantially absorb the infrared electromagnetic radiation

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faye Boosalis whose telephone number is 571-272-


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2447. The examiner can normally be reached on Monday thru Friday from 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FB


OTILIA GABOR
PRIMARY EXAMINER